

## AMENDMENT

### In the claims:

1. (Currently amended) A system for allowing a user to perform remote vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming for one or more vehicles, comprising:

a repository database for holding information indicative of the one or more vehicles;

an application server having applications for carrying out any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming, wherein the application server accesses the repository database to obtain the information about the one or more vehicles so as to carry out the applications, wherein during processing of the applications data is sent to and received from each of the one or more vehicles, and wherein the application server is operable to carry out decision processing of the applications using data received from the one or more vehicles;

a graphical user interface (GUI), wherein the GUI accesses the repository database to obtain a list of specific vehicles within the fleet of vehicles to select from, and wherein the GUI couples to the application server to request processing of the applications for one or more of vehicles selected from the list;

an onboard unit server coupled to the application server, wherein the onboard unit server is operable to convert data between a format understandable by the user using the GUI and a format understandable by an onboard unit coupled to the data bus of one of the vehicles;

an onboard unit coupled to a data bus of one of the vehicles, wherein the onboard unit is operable to collect data for any of the applications and operable to manage interfacing between the data bus and the onboard unit; and

a communications means, coupled between the onboard unit server and the onboard unit, for handling communications between the onboard unit server and the onboard unit.

~~an onboard unit coupled to a data bus of the one or more vehicles~~

~~an application server which provides the user with a graphical user interface (GUI) in order to send and receive data from each of the one or more vehicles;~~

~~a repository database, accessible via said application server, which stores information related to the one or more vehicles;~~

~~an onboard unit server, coupled to said application server, which contains means to convert data between a format understandable by the user using said GUI, and a format understandable by said onboard unit coupled to the data bus of the one or more vehicles; and~~

~~a communications means, couples to between said onboard unit server and said onboard units, for handling communications between said onboard unit server and said onboard units located on the one or more vehicles;~~

~~wherein said system allows the user to perform total fleet logistics via said GUI interface by facilitating vehicle parameter changes, vehicle health tracking, and receipt of vehicle maintenance need indications, thus eliminating the a need~~

~~to physically bring the one or more vehicles to repair, maintenance, or configuration facility.~~

2. (Currently amended) The system of claim 1, wherein the one or more vehicles includes at least one of the group consisting of passenger cars, light trucks, vans, and heavy trucks, construction vehicles, and other moveable vehicles.
3. (Currently amended) The system of claim 1, wherein ~~said the~~ format understandable by ~~said the~~ onboard unit couples to the data bus of the one ore more vehicle is binary.
4. (Currently amended) The system of claim 1, wherein at least a ~~first~~ portion of ~~said the~~ communications means includes the Internet.
5. (Currently amended) The system of claim 21, wherein at least a ~~second~~ portion of ~~said the~~ communications means includes at least one of the following (i) satellite communications, (ii) code division multiple access (CDMA) communications; (iii) time division multiple access (TDMA) communications, and ~~(iv) the Bluetooth~~ wireless local area network communications, (v) wired local area network communications, (vi) wired wide area network communications, (v) wireless wide area network communications.
6. (Currently amended) A system for a vehicle onboard unit that allows a user to perform remote vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming, comprising:
  - a central processing unit (CPU);
  - user input/output (I/O) channel ports for sending and receiving communications from ~~the user~~ an application server having applications for

carrying out any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming, wherein the application server is operable to carry out decision processing of the applications using data received from the user I/O channel ports;

a first application program interface means, executing on ~~said~~the CPU, for extracting a command from ~~said~~the communications received by ~~said~~the user I/O channel ports from the application server, wherein ~~said~~the command includes information specifying a vehicle and at least one vehicle parameter;

vehicle input/output (I/O) channel ports for receiving and sending communications to a vehicle data bus located on ~~said~~the vehicle specified by ~~said~~the command;

a second application program interfaces means, executing on ~~said~~the CPU, for communicating ~~said~~the command, via ~~said~~the vehicle I/O channel ports, to ~~said~~the vehicle data bus thereby causing ~~said~~the at least one vehicle parameter to be read or changed;

wherein ~~said~~the system allows the user to perform total fleet logistics via ~~said~~the GUI interface by facilitating vehicle parameter changes, vehicle health tracking, and receipt of vehicle maintenance need indications, thus eliminating a need to physically bring ~~said~~the vehicle to a repair, maintenance or configuration facility.

7. (Currently amended) The system of claim 6, wherein the first application program interface means includes means for extracting ~~said~~the command from one of the following types of communications received on ~~said~~the user I/O channel ports: (i)

satellite communications, (ii) code division multiple access (CDMA) communications; (iii) time division multiple access (TDMA) communications, and (iv) the ~~Bluetooth~~-wireless local area network communications, (v) wired local area network communications, (vi) wired wide area network communications, (v) wireless wide area network communications.

8. (Original) The system of claim 6, wherein the second application program interface means includes one of the following types application program interfaces: (i) SAE J1708, (ii) SAE J1587; (iii) SAE J1939, (iv) SAE OBD II, and (v) manufacturer proprietary interfaces.
9. (Currently amended) A method for allowing a user to perform remote diagnostics, monitoring, configuring, and reprogramming for a fleet of vehicles, comprising the steps of:

accessing a repository database using a graphical user interface, wherein the repository database in order to provides the user with a list of specific vehicles within the fleet of vehicles and a list of associated vehicle parameters;

selecting via the GUI one or more of vehicles from the list and at least one associated vehicle parameters for each of the vehicles selected;

receiving, via a graphical user interface (the GUI) a command requesting an application server to process of any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming application from the user, wherein said the command includes information specifying at least one vehicle from said the list of vehicles and one vehicle parameter from said the list of associated vehicle parameters.

storing ~~said-the~~ command in ~~said-the~~ repository database along with the time and date that ~~said-the~~ command was received ~~from the user~~;

carrying out any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming application using an application server, wherein the application server accesses the repository database to obtain the information about the one or more vehicles so as to carry out the applications, wherein during processing of the applications data is sent to and received from each of the one or more vehicles, and wherein the application server is operable to carry out decision processing of the applications using data received from the one or more vehicles;

converting ~~said-the~~ command from a format understandable by ~~the user~~ using ~~said-the~~ GUI to a format understandable by an onboard unit located on ~~said~~ the at least one vehicle;

sending ~~said-the~~ command, via a wireless mobile communications system, in ~~said-the~~ format understandable by ~~said-the~~ onboard unit located on ~~said-the~~ at least one vehicle, thereby causing ~~said-the~~ at least one vehicle parameter to be read or changed;

receiving an acknowledgment of ~~said-the~~ command from ~~said-the~~ onboard unit, via ~~said-the~~ wireless mobile communications system; and

storing ~~said-the~~ acknowledgment in ~~said-the~~ repository database ~~so that the user may for later retrieve~~ retrieval ~~said acknowledgment using by said-the~~ GUI;

wherein ~~said-the~~ method allows the user to perform total fleet logistics via ~~said-the~~ GUI interface by facilitating vehicle parameter changes, vehicle health

tracking, and receipt of vehicle maintenance need indications, thus eliminating the a need to physically bring vehicles within the fleet to a repair, maintenance, or configuration facility.

10. (Currently amended) The method of claim 9, wherein at least a portion of ~~said the~~ GUI is provided to the user via the Internet.

11. (Currently amended) The method of claim 9, wherein at least a portion of said wireless mobile communications system includes at least one of the following: (i) satellite communications, (ii) code division multiple access (CDMA) communications; (iii) time division multiple access (TDMA) communications, ~~and~~ (iv) ~~the Bluetooth-wireless~~ local area network communications, (v) wired local area network communications, (vi) wired wide area network communications, (v) wireless wide area network communications.

12. (Currently amended) A computer program product comprising a computer usable medium having control logic stored therein for causing a computer to provide remote diagnostics, monitoring, configuring and reprogramming for a fleet of vehicles, ~~said~~ the control logic comprising:

a first computer readable program code means for causing the computer to access a repository database in order to provide to a graphical user interface (GUI) ~~the user with~~ a list of specific vehicles within the fleet of vehicles and a list of associated vehicle parameters;

a second computer readable program code means for causing the computer to select via the GUI one or more of vehicles from the list and at least one associated vehicle parameters for each of the vehicles selected;

a ~~second~~ ~~third~~ computer readable program code means for causing the computer to receive, via a graphical user interface (the GUI), a command requesting an application server to process of any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming application from the user, wherein said ~~the~~ command includes information specifying at least one vehicle from said ~~the~~ list of vehicles and one vehicle parameter from said ~~the~~ list of associated vehicle parameters;

a ~~third~~ ~~fourth~~ computer readable program code means for causing the computer to store said ~~the~~ command in said ~~the~~ repository database along with the time and date that said ~~the~~ command was received from the user;

a fifth computer readable program code means for carrying out any of vehicle diagnostics, vehicle monitoring, vehicle configuration and vehicle reprogramming application using an application server, wherein the application server accesses the repository database to obtain the information about the one or more vehicles so as to carry out the applications, wherein during processing of the applications data is sent to and received from each of the one or more vehicles, and wherein the application server is operable to carry out decision processing of the applications using data received from the one or more vehicles;

a ~~fourth~~ ~~sixth~~ computer readable program code means for causing the computer to convert said ~~the~~ command from a format understandable by the user using said ~~the~~ GUI to a format understandable by an onboard unit located on said ~~the~~ at least one vehicle



a ~~fifth-seventh~~ computer readable program code means for causing the computer to send ~~said~~the command, via a wireless mobile communications system, in ~~said~~the format understandable by ~~said~~the onboard unit located on ~~said~~the at least one vehicle, thereby causing ~~said~~the at least one vehicle parameter to be read or changed;

an ~~sixth-eighth~~ computer readable program code means for causing the computer to receive an acknowledgment of ~~said~~the command from ~~said~~the onboard unit, via ~~said~~the wireless mobile communications system; and

a ~~seventh-ninth~~ computer readable program code means for causing the computer to store ~~said~~the acknowledgment in ~~said~~the repository database so that ~~the user may for later retrieve~~ retriveal ~~said~~the ~~acknowledgment using by the~~ GUI;

wherein ~~said~~the computer program product allows the user to perform total fleet logistics via ~~said~~the GUI interface by facilitating vehicle parameter changes, vehicle health tracking, the receipt of vehicle maintenance need indications, thus eliminating the need to physically bring vehicles within the fleet to a repair, maintenance or configuration facility.

13. (New) The system of claim 1, wherein the system provides total fleet logistics via the GUI interface by facilitating vehicle parameter changes, vehicle health tracking, and receipt of vehicle maintenance need indications, thereby eliminating a need to physically bring the one or more vehicles to repair, maintenance, or configuration facility.

14. (New) The system of claim 1, wherein onboard unit comprises an application module, a data-interface module, and a command module.
15. (New) The system of claim 14, wherein the at least one application module is operable to collect data for any of the applications and operable to manage interfacing between the data bus and the command module for collecting the data, wherein the data-interface module is operable to manage interfacing between the data bus and the application and command modules, and wherein the command module is operable to manage data sent to and from the onboard unit and to direct the data to the data-bus interface and application module.
16. (New) The system of claim 1, wherein the onboard unit server includes a dispatcher module, a conversion module, and a communication module, wherein the dispatcher module is operable to route the data between the communication and conversion modules, wherein the communication module is operable to manage data sent to and from the onboard unit server, and wherein the conversion module is operable to convert data between a format understandable by the user using the GUI and a format understandable by an onboard unit coupled to the data bus of one of the vehicles.
17. (New) The system of claim 15, wherein the onboard unit server includes a dispatcher module, a conversion module, and a communication module, wherein the dispatcher module is operable to route the data between the communication and conversion modules, wherein the communication module is operable to manage data sent to and from the onboard unit server, and wherein the conversion module is operable to convert data between a format understandable by the user

using the GUI and a format understandable by an onboard unit coupled to the data bus of one of the vehicles.

18. (New) The system of claim 1, further including a firewall, wherein appropriate credentials are required to access to the application server and repository database.
19. (New) The system of claim 1, wherein the information indicative of the one or more vehicles includes a vehicle identification parameter and at least one parameter that is specific to the applications.
20. (New) The system of claim 1, wherein the information indicative of the the one or more vehicle includes a vehicle identification parameter and at least one parameter that is not specific to the applications.
21. (New) The system of claim 1, wherein the data sent to and received from each of the one or more vehicles includes data specific to the applications.
22. (New) The system of claim 1, wherein the data sent to each of the one or more vehicles may contain commands for collecting data.
23. (New) The system of claim 1, wherein the data sent to each of the one or more vehicles may contain commands for setting a parameter of the vehicle.